

Terranova Ranch, Not Sitting Still

Operation Planning for Major on-Farm Recharge of Ground Water

By Patrick Cavanaugh Editor

"Yes, we have been through some big droughts, but we have also been through some big flood years, and we are planning for it, said Don Cameron, vice president and general manager of the 7,000-acre Terranova Ranch in Fresno County. "Look at 1982 and 1983, the levies along side the lower Kings River bypass were inches from breaking," he noted.

The farm is a showpiece of organization, and beautiful fields producing as many as 30 different crops using ground water supplies, and fortunately, Terranova Ranch wells have been holding relatively good this season. "How we will get through another season, we will never know," said Cameron.



Terranova Ranch General Manager Don Cameron is happy after another great harvest of cannery tomatoes (65 tons per acre) from the ranch.



Patrick Pinkard has been working at Terranova for three summers and will soon graduate from Cal-Poly San Luis Obispo to come back to full time to work closely with General Manager Don Cameron.

Companies that use their products, especially their cannery tomatoes, stop by regularly to see how the food is grown. In fact, recently, company representatives of PizzaRev and Little Caesars came out to see where their tomato

sauce was coming from."

Terranova has a legacy of producing cotton, alfalfa, barley and wheat, but those crops have been replaced with conventional as well as organic cannery tomatoes, fresh and dehydrator onions, carrots, bell peppers and many other crops. Terranova also farms walnuts, almonds (700 acres) and wine grapes

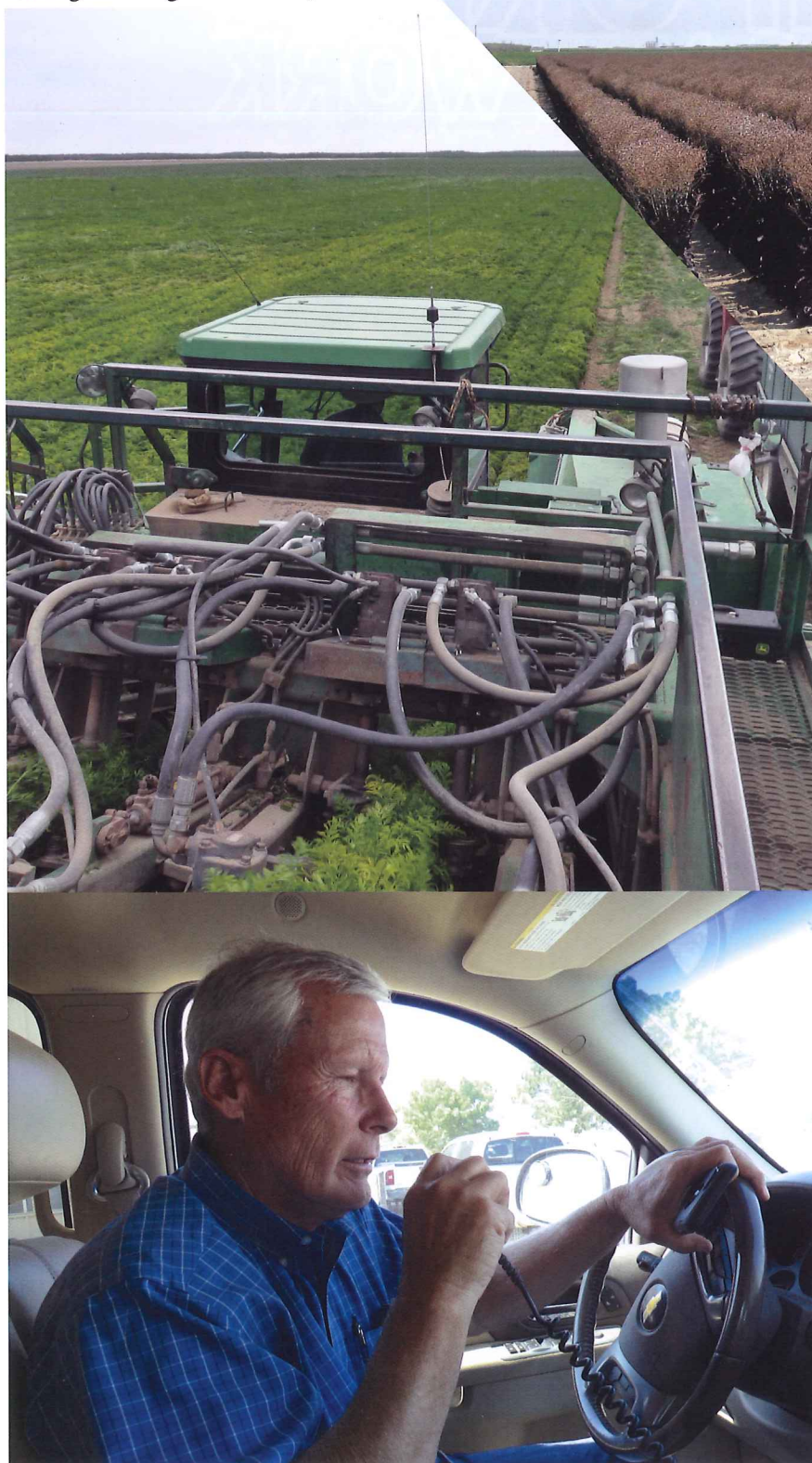
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(1100 acres). And every field is on either an above ground drip irrigation or subsurface drip.

"We've been able to continue farming the acreage that we have, even in



Top photo; Atop a carrot digging machine while harvesting carrots on Terranova Ranch. Below, Don Cameron on the run to keep all things humming on the 7,000 acres Terranova Ranch with vegetable crops along with almond, walnuts and wine grapes.

One big part of Terranova Ranch is devoted to seed crops for seed companies.

the fourth year of a drought," Cameron said. "And the reason we've been able to do that is because we've changed all of our irrigation on our row crops to buried drip irrigation. We use every drop of water that we have.

"We've also put in drip irrigation systems on all our trees, and all our vines," Cameron said. "We have irrigation scheduling. We used evapotranspiration data—we're not putting on anything more than what we're actually using.

"So we're just able to find a solution to get through these tough times," Cameron said, "and we hope we have a wet winter, and get a good snowpack so next year we'll have more water. We're farming like we're in a drought every year. We are never really going to go back to the ways that we used to farm."

The ranch also devotes a lot of acreage to seed crops on the ranch including conventional and organic lettuce, coriander, Kale and many other crops. We have a partnership with the seed companies, and we charge a certain amount per year and we do a lot of the cultural practices. They do the planting, we do the irrigating and they do the harvesting. The seed companies also examine the seed crops through the growing season to make sure it's virus free. They are a real hands-on group of people and we both like working with

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each other. Cameron said that there are more than 4,000 different varieties that are growing on the ranch.

"There are times when one crop will not do as good as another, so the diversification that we have here adds stability to our farm operation," said Cameron. "Our workers like the stability, as they know they will have work long term both summer and winter. In the long run, diversification is a lot more work for us but we have proven it to be valuable for our operation."

And while Cameron and his team are focused on a never-ending effort of reducing water to the crops, he is also planning for the best in diverting possible future floodwaters over the ranch to recharge the groundwater. (See Related Story)

This year Cameron put in a trial system using John Deere moisture monitoring sensors in one of his tomato fields. "I can pick up my iPhone and see if moisture is being depleted in the soil any time of day that I look at it," Cameron said. "It gives me readings at different soil levels so I can see where the water is being applied or where it's being pulled. And we keep an eye on the plants in order to ground truth it," he said.

"We also have the same thing in our walnuts where we check the moisture down to six feet," he said.

"The run-off basins are not used because we have no run-off anymore. Nearly every drop that we apply to the crop, moves though the crop and is transpired through the leaves," noted Cameron.

The farm normally harvests 120 truckloads a day of cannery tomatoes, to keep the cannery moving. "We also did 52 truckloads of carrots one day in early August. And our dehy-onion field will be harvested from late August into September. "It can be a real traffic jam out there in the field," Cameron said.

The operation was in full harvest mode in early to mid August on 250 acres of summer carrots and will harvest around 350 acre of winter carrots.

Before planting the vegetable crops they apply some moisture to the ground with sprinklers and then fumigate with Vapam. On other fields with heavy nematodes, he orders up a combination



of Vapam and Telone. "We actually can do a good job with these products and we don't apply the heaviest rate possible. Instead, we use a rate that we think will kill the nematodes and other diseases," said Cameron.

Many fields are being worked after harvest when crews are popping up the subsurface tape from the ground and winding it up and sending it to recyclers. Then the field is bedded up with new tape for another crop.

"We generally use low-mil tape for a year because we often get plugging with root intrusion or from sand in our wells, even though we filter the water. So we found out that we are better off going with one year tape, and when we are done, take it out, recycle it and put new tape in," said Cameron. "Because we rotate our crops and grow different crops, we want new tape for each crop. Also, with the different row spacing you cannot keep the same tape in year after year," he added.

To get all the jobs done, Cameron leans on many different people at Terranova. "We have people that have been with us for a very long time, from our mechanics down to our tractor

drivers, and irrigators. We have several great supervisors that work together well, they know what we need to do each day, year in and year out, which makes it a lot easier for me," he said.

One key employee, Patrick Pinkard who is finishing up at Cal Poly San Luis Obispo has been working on the ranch for three summers now and will be coming back working full time once he graduates.

He is studying agricultural systems management with a minor in agricultural business.

"I'm looking forward to what Don has in store for me," Pinkard said. "I'm learning the ropes of each crop right now so hopefully I get a full experience of the farm. "I am looking forward to having Patrick as my right hand man," said Cameron.

Besides being a busy manager for Terranova Ranch, Cameron has his own farming operation, which includes walnuts, pistachios, cannery tomatoes and alfalfa seed. "The acreage is scattered around Fresno county. I'm very busy with out dull moment, and the challenges are constant, which is something I enjoy too," said Cameron.

